CLAIMS

1.-10. (Canceled)

11. (Withdrawn) A system for maintaining an operation of a memory segment, the system comprising:

means for evaluating elements of a plurality of subsets of said memory segment in row-fast order, wherein each said subset is at least two linear arrays of said elements;

means for identifying faulty ones of said evaluated elements;

means for generating a count of said identified faulty ones of said evaluated elements found for each column said subset of said memory segment, wherein said generating means is operative to act successively through said plurality of subsets; and

means for establishing one of a pass condition and a failure condition for said memory segment based on a value of said count of said identified faulty ones of said evaluated elements.

12. (Withdrawn) The system of claim 11 further comprising:

means for preserving information about said generated count for only one column said subset of said memory segment at a time.

13. (Withdrawn) The system of claim 11 further comprising:

means for resetting a count of said identified faulty ones of said evaluated elements upon initiating traversal of a new column subset.

14. (Withdrawn) The system of claim 11 wherein the means for establishing comprises:

means for comparing said generated count to a threshold value.

15. (Withdrawn) The system of claim 11 further comprising:

means for clearing one of said pass condition and said fail condition upon completing a traversal of said memory segment.

16. (Withdrawn) The system of claim 11 wherein said means for generating a count comprises:

means for incrementing a failure counter upon detecting one of said faulty ones of said evaluated elements.

17. (Withdrawn) The system of claim 11 further comprising:

means for physically re-mapping said memory segment upon establishment of said failure condition for said memory segment.

18. (Previously Presented) A method for preserving an operation of a memory segment, the method comprising the steps of:

evaluating elements of said memory segment in row-fast order;

identifying faulty ones of said evaluated elements;

determining a number of said identified faulty ones of said evaluated elements in each of a plurality of subsets column of said memory segment;

comparing said determined number to a fault threshold value;

declaring a failure condition for said memory segment if said determined number is at least greater than or equal to said fault threshold value for any column one said subset of said memory segment; and

physically re-mapping said memory segment in response to said declared failure condition.

19. (Original) The method of claim 18 wherein said identifying step comprises the steps of:

storing evaluation data in said elements of said memory segment;

comparing said stored evaluation data to expected data for said elements of said memory segment; and

identifying elements for which said stored evaluation data does not match said expected data.

20. (Original) The method of claim 18 wherein said determining step comprises the step of:

incrementing a failure counter upon detection of a faulty element in said step of identifying.

21. (Previously Presented) A method of evaluating a reliability of a memory segment, the method comprising the steps of:

successively scanning each of a plurality of subsets of said memory segment, wherein each said subset comprises at least two linear arrays of elements; and

re-mapping said memory segment when a number of malfunctioning elements in any one subset is greater than or equal to a threshold number.

22. (Previously Presented) The method of claim 21 wherein each said linear array is a row of said memory segment.

23. (Previously Presented) The method of claim 21 wherein each said linear array is a column of said memory segment.

24. (Previously Presented) The method of claim 21 further comprising:

setting a flag indicating one of a pass condition and a fail condition for said memory segment when a number of malfunctioning elements in any one subset is greater than or equal to a threshold number.

25. (Previously Presented) The method of claim 24 further comprising the step of:

discarding a result of said scanning upon completing said step of setting said flag.

26. (Previously Presented) The method of claim 21 further comprising the step of:

avoiding recording a total number of said counted malfunctioning elements in said memory segment.

27. (Previously Presented) The method of claim 21 further comprising the steps of:

loading test data into said memory segment;

reading said loaded test data from said memory segment; and

comparing said read loaded test data to expected data for at least one element of said memory segment.

28. (Previously Presented) The method of claim 21 further comprising the step of:

determining said fault threshold based upon at least one characteristic of said memory segment.

29. (Previously Presented) The method of claim 21 further comprising the step of:

resetting a count of malfunctioning elements after said analyzing step.